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What is claimed is:

1. A planetary differential gear type reduction device for reducing a rotation speed of a drive source to a rotation speed necessary for an object to be driven to thereby transfer an output torque of said drive source, said planetary differential gear type reduction device comprising:

an output gear affixed to an output shaft connected to the object;

a stationary gear smaller in a number of teeth than said output gear and coaxial with said output shaft, but not rotatable; and

a planetary gear rotatably mounted on a planetary gear shaft, which is driven by the torque of the drive source to revolve round said output gear and said stationary gear, and revolving round said output gear and said stationary gear in mesh with said output gear and said stationary gear;

wherein said planetary gear has a first portion and a second portion meshing with said stationary gear and said output gear, respectively, and having a same number of teeth as each other, and

at least one of said output gear, said stationary gear and said first portion and said second portion of said planetary gear comprises a profile shifted gear.

2. The reduction device as claimed in claim 1, wherein at least one of said output gear and said second portion of said planetary gear comprises a profile shifted gear, and

said profile shifted gear is shifted in a direction in which when said second portion and said output gear mesh with each other, a diameter of a intermeshing pitch circle of said output gear decreases.

3. The reduction device as claimed in claim 2, wherein at least one of said stationary gear and said first portion of said planetary gear comprises a profile shifted gear, and

said profile shifted gear is shifted in a direction in which when said first portion and said stationary gear mesh with each other, a diameter of a intermeshing pitch circle of said stationary gear increases.

4. The reduction device as claimed in claim 3, wherein said planetary gear comprises a helical gear and has said first portion and said second portion each having teeth twisted in a particular direction.

5. The reduction device as claimed in claim 4, wherein a sum of a contact ratio between said stationary gear and said planetary gear and a contact ratio of said output shaft and said planetary gear is between 1.0 and 5.0.

6. The reduction device as claimed in claim 5, wherein said planetary gear comprises two planetary gears symmetrical to each other with respect to an axis of said stationary gear and said output gear.

7. The reduction device as claimed in claim 6, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is even, and

said first portion and said second portion of each of said planetary gears have a same pitch as each other.

8. The reduction device as claimed in claim 6, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is odd, and

said first portion and said second portion of one of said planetary gears is shifted by half a pitch relative to the other of said first portion and said second portion.

9. The reduction device as claimed in claim 6, wherein one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

10. The reduction device as claimed in claim 9, wherein said scissors gear biases said first portion and said second portion in the opposite directions with a force

that causes a torque corresponding to one-half of a torque necessary for said output shaft is transferred to said output gear.

11. The reduction device as claimed in claim 6, wherein a difference between a number of teeth of said output shaft and a number of teeth of said stationary shaft is odd, and

one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation and having a maximum range of rotation of 0.5 pitch.

12. The reduction device as claimed in claim 2, wherein said planetary gear comprises three planetary gears equally spaced from each other, and

two of said three planetary gears comprise scissors gears each having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

13. The reduction device as claimed in claim 12, wherein each of said scissors gears biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-third of a torque necessary for said output shaft is transferred to said output gear.

14. The reduction device as claimed in claim 2, wherein said planetary gear comprises a single planetary gear.

15. The reduction device as claimed in claim 1, wherein at least one of said stationary gear and said first portion of said planetary gear comprises a profile shifted gear, and

said profile shifted gear is shifted in a direction in which when said first portion and said stationary gear mesh with each other, a diameter of a intermeshing pitch circle of said stationary gear increases.

16. The reduction device as claimed in claim 3, wherein said planetary gear comprises a helical gear and has said first portion and said second portion each having teeth twisted in a particular direction.

17. The reduction device as claimed in claim 16, wherein a sum of a contact ratio between said stationary gear and said planetary gear and a contact ratio of said output shaft and said planetary gear is between 1.0 and 5.0.

18. The reduction device as claimed in claim 17, wherein said planetary gear comprises two planetary gears symmetrical to each other with respect to an axis of said stationary gear and said output gear.

19. The reduction device as claimed in claim 18,

wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is even, and

said first portion and said second portion of each of said planetary gears have a same pitch as each other.

20. The reduction device as claimed in claim 18, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is odd, and

said first portion and said second portion of one of said planetary gears is shifted by half a pitch relative to the other of said first portion and said second portion.

21. The reduction device as claimed in claim 18, wherein one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

22. The reduction device as claimed in claim 21, wherein said scissors gear biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-half of a torque necessary for said output shaft is transferred to said output gear.

23. The reduction device as claimed in claim 18, wherein a difference between a number of teeth of said

output shaft and a number of teeth of said stationary shaft is odd, and

one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation and having a maximum range of rotation of 0.5 pitch.

24. The reduction device as claimed in claim 15, wherein said planetary gear comprises three planetary gears equally spaced from each other, and

two of said three planetary gears comprise scissors gears each having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

25. The reduction device as claimed in claim 24, wherein each of said scissors gears constantly biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-third of a torque necessary for said output shaft is transferred to said output gear.

26. The reduction device as claimed in claim 15, wherein said planetary gear comprises a single planetary gear.

27. The reduction device as claimed in claim 1, wherein said planetary gear comprises a helical gear and

has said first portion and said second portion each having teeth twisted in a particular direction.

28. The reduction device as claimed in claim 27, wherein a sum of a contact ratio between said stationary gear and said planetary gear and a contact ratio of said output shaft and said planetary gear is between 1.0 and 5.0.

29. The reduction device as claimed in claim 28, wherein said planetary gear comprises two planetary gears symmetrical to each other with respect to an axis of said stationary gear and said output gear.

30. The reduction device as claimed in claim 29, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is even, and

said first portion and said second portion of each of said planetary gears have a same pitch as each other.

31. The reduction device as claimed in claim 29, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is odd, and

said first portion and said second portion of one of said planetary gears is shifted by half a pitch relative to the other of said first portion and said second portion.

32. The reduction device as claimed in claim 29,

wherein one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

33. The reduction device as claimed in claim 32, wherein said scissors gear biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-half of a torque necessary for said output shaft is transferred to said output gear.

34. The reduction device as claimed in claim 29, wherein a difference between a number of teeth of said output shaft and a number of teeth of said stationary shaft is odd,

and one of said planetary gears comprises a scissors gear having said first portion and said second portion biased in opposite directions to each other as to rotation and having a maximum range of rotation of 0.5 pitch.

35. The reduction device as claimed in claim 27, wherein said planetary gear comprises three planetary gears equally spaced from each other, and

two of said three planetary gears comprise scissors gears each having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

36. The reduction device as claimed in claim 35, wherein each of said scissors gears biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-third of a torque necessary for said output shaft is transferred to said output gear.

37. The reduction device as claimed in claim 27, wherein said planetary gear comprises a single planetary gear.

38. The reduction device as claimed in claim 1, wherein a sum of a contact ratio between said stationary gear and said planetary gear and a contact ratio of said output shaft and said planetary gear is between 1.0 and 5.0.

39. The reduction device as claimed in claim 38, wherein said planetary gear comprises two planetary gears symmetrical to each other with respect to an axis of said stationary gear and said output gear.

40. The reduction device as claimed in claim 39, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is even, and

said first portion and said second portion of each of said planetary gears have a same pitch as each other.

41. The reduction device as claimed in claim 39,

wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is odd, and

said first portion and said second portion of one of said planetary gears is shifted by half a pitch relative to the other of said first portion and said second portion.

42. The reduction device as claimed in claim 39, wherein one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

43. The reduction device as claimed in claim 42, wherein said scissors gear biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-half of a torque necessary for said output shaft is transferred to said output gear.

44. The reduction device as claimed in claim 39, wherein a difference between a number of teeth of said output shaft and a number of teeth of said stationary shaft is odd, and

one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation and having a maximum range of rotation of 0.5

pitch.

45. The reduction device as claimed in claim 38, wherein said planetary gear comprises three planetary gears equally spaced from each other, and

two of said three planetary gears comprise scissors gears each having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

46. The reduction device as claimed in claim 45, wherein each of said scissors gears biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-third of a torque necessary for said output shaft is transferred to said output gear.

47. The reduction device as claimed in claim 38, wherein said planetary gear comprises a single planetary gear.

48. The reduction device as claimed in claim 1, wherein said planetary gear comprises two planetary gears symmetrical to each other with respect to an axis of said stationary gear and said output gear.

49. The reduction device as claimed in claim 48, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is even, and

said first portion and said second portion of each of said planetary gears have a same pitch as each other.

50. The reduction device as claimed in claim 48, wherein a difference between a number of teeth of said output gear and a number of teeth of said stationary gear is odd, and

said first portion and said second portion of one of said planetary gears is shifted by half a pitch relative to the other of said first portion and said second portion.

51. The reduction device as claimed in claim 48, wherein one of said planetary gears comprises a scissors gear having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

52. The reduction device as claimed in claim 51, wherein said scissors gear biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-half of a torque necessary for said output shaft is transferred to said output gear.

53. The reduction device as claimed in claim 48, wherein a difference between a number of teeth of said output shaft and a number of teeth of said stationary shaft is odd, and

one of said planetary gears comprises a scissors gear

having said first portion and said second portion constantly biased in opposite directions to each other as to rotation and having a maximum range of rotation of 0.5 pitch.

54. The reduction device as claimed in claim 1, wherein said planetary gear comprises three planetary gears equally spaced from each other, and

two of said three planetary gears comprise scissors gears each having said first portion and said second portion constantly biased in opposite directions to each other as to rotation.

55. The reduction device as claimed in claim 54, wherein each of said scissors gears biases said first portion and said second portion in the opposite directions with a force that causes a torque corresponding to one-third of a torque necessary for said output shaft is transferred to said output gear.

56. The reduction device as claimed in claim 1, wherein said planetary gear comprises a single planetary gear.

57. A driving device including a reduction mechanism, comprising:

a drive source for outputting a preselected torque with a preselected rotation speed; and

reducing means for reducing the rotation speed of

said drive source to a rotation speed necessary for an object to be driven to thereby transfer the torque of said drive source to said object;

said reducing means comprising a planetary differential gear type reducing device comprising:

an output gear affixed to an output shaft connected to the object;

a stationary gear smaller in a number of teeth than said output gear and coaxial with said output shaft, but not rotatable; and

a planetary gear rotatably mounted on a planetary gear shaft, which is driven by the torque of the drive source to revolve round said output gear and said stationary gear, and revolving round said output gear and said stationary gear in mesh with said output gear and said stationary gear;

wherein said planetary gear has a first portion and a second portion meshing with said stationary gear and said output gear, respectively, and having a same number of teeth as each other, and

at least one of said output gear, said stationary gear and said first portion and said second portion of said planetary gear comprises a profile shifted gear.

58. The driving device as claimed in claim 57, further comprising:

power inputting member for driving said planetary gear shaft, which is affixed to said power inputting member, such that said planetary gear revolves round said output gear and said stationary gear; and

a torque transmitting member for transmitting the torque from the drive source to said power inputting member;

wherein said stationary member and said power inputting member are rotatably mounted on said output shaft.

59. The driving device as claimed in claim 58, wherein the drive source comprises an outer rotor type motor while said power inputting member comprises an outer rotor of said outer rotor type motor.

60. The driving device as claimed in claim 59, wherein said output shaft is rotatable relative to a stationary gear shaft support member, which supports said stationary gear, and a stator core support member facing said support member and supporting a stator core of said outer rotor type motor, and

said stationary gear, said output gear and said outer rotor type motor are sequentially arranged between said stationary gear support member and said stator core support member in this order.

61. An image forming apparatus comprising:

a rotary body to be rotated at a lower rotation speed than a drive source; and

reducing means for reducing the rotation speed of said drive source to a rotation speed necessary for said rotary body driven to thereby transfer the torque of said drive source to said rotary body;

said reducing means comprising a planetary differential gear type reducing device comprising:

an output gear affixed to an output shaft connected to the object;

a stationary gear smaller in a number of teeth than said output gear and coaxial with said output shaft, but not rotatable; and

a planetary gear rotatably mounted on a planetary gear shaft, which is driven by the torque of the drive source to revolve round said output gear and said stationary gear, and revolving round said output gear and said stationary gear in mesh with said output gear and said stationary gear;

wherein said planetary gear has a first portion and a second portion meshing with said stationary gear and said output gear, respectively, and having a same number of teeth as each other, and

at least one of said output gear, said stationary gear and said first portion and said second portion of said

planetary gear comprises a profile shifted gear.